

Human Engineering Tools and Process Matrix



DD 21 / ONR



SC-21 S&T Manning Affordability Initiative

1/12/1999

[illegible]

	ACT	ADIVA	ALPHA/Slm	ASSESS	CASA	COMBIMAN	ComputerMan	CREW CHIEF	CUTTER	Destination	ENVISION/ERGO	EPIC	Human Scale	I-CAN	iGEN	IMAGE	IMPACT	IMPRINT	INDI	IPME	I-TASK	LMT	MacSHAPA	MDHMS	OASYS	ORCA	PATSWAM	PRICE HL	RECAP	ROMAN	SAFEWORK	SIMWAN	Transom Jack	WINCREW	
3.19 Verify Compliance with System Requirements															X		X		X															X	
3.20 Identify Variances and Conflicts														X			X		X															X	
3.21 Determine if Greater Decomposition is Required																																			
4.0 FUNCTION ALLOCATION																																			
4.1 Define Mandatory Function Allocations																																			
4.1.1 identify Requirements of Human Role Strategy																													X						
4.1.2 Allocate Mandatory Functions																				X										X					
4.1.3 Allocate Functions with Derived Mandatory Allocations																														X					
4.1.4 Evaluate Against Comparison System													X																	X					
4.1.5 Define Required User KSAs																							X												
4.2 Create Alternate Allocations of Remaining Functions																																			
4.2.1 Identify Operator & Maintainer Capabilities and Limitations																														X					
4.2.2 Identify Technology Capabilities and Limitations																																			
4.2.3 Identify Potential Allocations of Each Function																														X					
4.2.4 Identify Comparison System Allocations													X	X															X						
4.2.5 Allocate by Ability to Perform																								X											
4.2.6 Allocate by Utility or Cost Estimate				X																															
4.2.7 Allocate for Cognitive Support																	X		X																
4.2.8 Allocate by Workload																																			
4.2.9 Allocate by Frequency																																			
4.2.10 Allocate by Training Criteria																																			
4.2.11 Allocate by Manning Criteria																	X		X																
4.2.12 Allocate by Other Criteria																																			
4.2.13 Evaluate Against Comparison System													X	X																X					
4.2.14 Resolve Different Allocations for Different Phases																			X				X											X	
4.2.15 Refine Required User KSAs																							X												
4.3 Select Optimal Function Allocation													X		X															X					
4.3.1 Select SDF Weighting Factors			X						X				X																						
4.3.2 Compare Risk / Feasibility																																			
4.3.3 Compare Time Required																								X										X	
4.3.4 Compare Performance																							X											X	
4.3.5 Compare Manning			X														X																		
4.3.6 Compare Workload																							X		X							X			
4.3.7 Compare Life-Cycle Cost				X																			X	X											
4.3.8 Compare Availability																																			
4.3.9 Compare Training																																			
4.3.10 Compare Other SDF's																																			
4.3.11 Tradeoff and Select Allocation			X						X								X													X					
4.4 Verify Allocation Compliance with System Requirements													X				X													X					
4.4.1 Estimate Risk / Feasibility													X				X													X				X	
4.4.2 Estimate Time Required																	X		X					X										X	
4.4.3 Estimate Performance																	X		X													X		X	
4.4.4 Estimate Manning																	X	X						X							X			X	
4.4.5 Estimate Workload																	X		X					X						X				X	
4.4.6 Estimate Life-Cycle Cost				X																											X				
4.4.7 Estimate Availability																														X					X
4.4.8 Estimate Training																														X					
4.4.9 Estimate Other SDF's														X																					
4.4.10 Compare to System Requirements									X																										

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	ACT	ADIVA	ALPHA/Sim	ASSESS	CASA	COMBIMAN	ComputerMan	CREW CHIEF	CUTTER	Destination	ENVISION/ERGO	EPIC	Human Scale	I-CAN	IGEN	IMAGE	IMPACT	IMPRINT	INDI	IPME	I-TASK	LMT	MacSHAPA	MDHMS	OASYS	ORCA	PATS/WAM	PRICE HL	RECAP	ROMAN	SAFEWORK	SIMWAN	Transom Jack	WINCREW
5.3.16 Compare to System Requirements										X	X																							
6.0 VERIFICATION																																		
6.1 Plan Verification	X	X						X																										
6.2 Compare to Measure of Effectiveness						X	X			X						X					X		X	X					X		X		X	
6.3 Compare to Measures of Performance						X	X			X						X					X			X					X		X		X	
6.4 Compare to Infrastructure Requirements											X																		X					
6.5 Compare to Manning Requirements			X			X							X	X		X	X		X	X				X	X	X	X	X	X			X		X
6.6 Compare to Personnel Requirements			X										X				X	X								X	X	X						X
6.7 Compare to Training Requirements			X							X	X		X				X	X	X	X							X	X	X				X	X
6.8 Compare to Safety Requirements			X		X	X	X			X		X	X				X	X	X					X		X	X	X	X		X			X
6.9 Compare to Human Engineering Requirements	X	X	X		X	X	X				X	X	X	X			X	X	X				X	X		X	X	X	X		X			X
6.10 Verify Manning Structure			X														X	X	X	X				X										X
6.11 Verify Task Structure																		X	X	X	X	X		X								X	X	
6.12 Verify Interface Structure																			X			X												
6.13 Verify Cost Structure			X	X	X																							X						
6.14 Compare to Manning Guidelines								X						X		X												X						
6.15 Compare to Personnel Guidelines														X																				
6.16 Compare to Training Guidelines										X	X			X																				X
6.17 Compare to Safety Guidelines						X	X						X	X																	X			
6.18 Compare to Human Engineering Guidelines						X	X	X				X	X																		X			
6.19 Identify Variances and Conflicts	X	X	X			X		X	X	X													X				X	X			X			
6.20 Recommend Degree of Redesign								X	X																									
6.21 Establish Design Baseline	X	X	X	X	X			X	X	X													X				X	X	X			X		